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Response to 'Unexpected lower biochemical control of high-dose-rate brachytherapy boost than low-dose-rate brachytherapy boost for clinically localized prostate cancer'

To the Editor,

The authors thank Yamakazi et al for their interest in our article and for raising several interesting and relevant questions regarding our findings.

We agree that it is possible a lower total biological effective dose (BED) was responsible for the lower biochemical progression free survival (PFS) observed for patients treated with high dose rate brachytherapy (HDR) boost especially for the 17Gy in 2 fractions schedule. An indication of this might be that only 8.7% of patients treated with HDR boost achieved a nadir PSA< 0.1ng/ml compared with 44.8% of patients treated with low dose rate brachytherapy (LDR) boost. However, we do also note inherent uncertainties/assumptions in comparing BED between LDR and HDR brachytherapy/external beam radiotherapy (EBRT) schedules.

50 patients treated with HDR boost received 17Gy in 2 fractions and 121 patients received 15Gy in 1 fraction. The majority of patients in both HDR and LDR boost cohorts with T3 disease had T3a disease. In the HDR boost group, 77 had T3a disease, 19 had T3b disease and 1 patient was classified as T3 not otherwise specified. In the LDR boost group, 50 patients had T3a disease, 5 had T3b disease and 1 patient T3 not otherwise specified. Given the small numbers in these subgroups and the risk of a type 1 error/-false positive result, we do not intend to undertake multiple comparisons of bPFS between the two HDR boost schedules, intermediate and high risk disease and T3a versus T3b disease. We accept the small discrepancy between the numbers of patients with T3a/b disease and those classified as having high risk disease in Table 1.

We accept that the median follow up for the HDR boost group was shorter than for the LDR group because the HDR boost technique was implemented more recently but we suggest that the number of relapses in the HDR boost group was still higher than would be expected with relatively short follow up and the majority of patients treated with hormone therapy.

We agree with Yamakazi et al that further investigation of the optimum dose/fractionation schedule for EBRT plus HDR boost within a robust clinical trial is important.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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